

Internal ATAPI / Enhanced IDE CD-ROM

USER'S GUIDE



**CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1
LASER KLASSE 1
LUOKAN 1 LASERLAITE
PRODUIT LASER
CATEGORIE 1**

DANGER	INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
VORSICHT	INSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN
ATTENTION	RADIATION DU FAISCEAU LASER INVISIBLE EN CAS D'OUVERTURE. EVITER TOUTE EXPOSITION AUX RAYONS.

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FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
1. This device must accept any interference received, including interference that may cause undesired operation.

FCC Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can emit radio frequency energy and, if not installed or used in accordance with the instructions, may cause interference to radio communications. However, television reception interference can be determined by turning the equipment off and on. The user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FOR EUROPE



"The drive is in conformity with the EMC directive and low-voltage directive."

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INTRODUCTION

Congratulations on the purchase of your HI-VAL CD-ROM. The purpose of this document is to provide you with installation instructions for your new kit. If this is your first installation with this type of product, please read the entire manual before you begin. If you are experienced with installations, you may want to go directly to the hardware installation section.

For your information, we have provided background information on CD-ROMs and CD-ROM drives. Also included is background information on the IDE and EIDE interfaces. If you have never installed computer hardware, this section is both informative and necessary.

Following the installation of both the hardware and software, the Installation Guide also contains a troubleshooting section, a general specification guide, how to contact IOM Holdings and information on how to register your product.

Thank you again for purchasing the Hi-VAL CD-ROM.

Specifications

Disc	
Disc Format:	ISO9660 Data Discs CD-ROM (Mode 1 & Mode 2), CD-R and CD-RW media, Mixed Mode (Audio Combined CD-ROM Discs), CD-ROM/XA (Mode 2 form 1 & form 2), CD-I/FMV, Video CD, CD-DA, Photo-CD (Single & multisession), Karaoke CD, CD-extra.
Disc Diameter:	8cm and 12cm
Interface:	ATAPI / IDE
Audio	
Specifications	65 dB typical
Signal to Noise Ratio:	≥ 0.6 Vrms at 1 KHz, 32 ohm load
Headphone Level:	
Compatibility	
Operating System:	DOS 6.xx, Windows 3.1X, Windows 95/98/2000, Windows NT, OS/2 Warp 3.x/4.x
Quality and Reliability:	MTBF up to 60,000 hours
Environment	
Operating Temperature:	10 to 45 degrees Celsius
Storage Temperature:	-15 to 60 degrees Celsius
Operating Humidity:	20% to 80% (Non-condensing)
Storage Humidity:	20% to 90% (Non-condensing)
Front Panel:	Power ON/Busy LED, Open/Close Button, Volume Control, Stereo Headphone Jack, Emergency Eject Hole
Rear Panel:	IDE Interface, Analog & Digital Audio Outputs, Power Input, Mode Select Jumper
Physical	
Dimensions	146 x 41.5 x 201 mm
W x H x D:	≤ 94 -g typical
Weight:	
Power Requirement:	DC +5V $\pm 5\%$, DC +12V $\pm 10\%$
Power Saving:	Compliant with EPA Energy Star

Package Contents

The HI-VAL CD-ROM package contains the following items:

- CD-ROM Drive.
- User's Guide (This Document)
- Registration Card
- DOS Driver Disk

System Requirements

Computer	IBM PC or Compatible
Processor	486 DX2 processor or Higher
Memory	8MB of System RAM
Hard Drive	Approximately 4 MB of Hard disk space
Operating System	DOS 6.0, Windows 3.1x, Windows 95/98 or higher

INSTALLATION

Handling Static-Sensitive Devices

The CD-ROM drive, like all electronic equipment, is static sensitive. Please take the proper precautions when handling the drive.

Avoid touching the IDE connector pins as well as the audio connector pins and the jumper pins.

Keep the drive in its conductive wrapping until you are ready to install the drive in your computer.

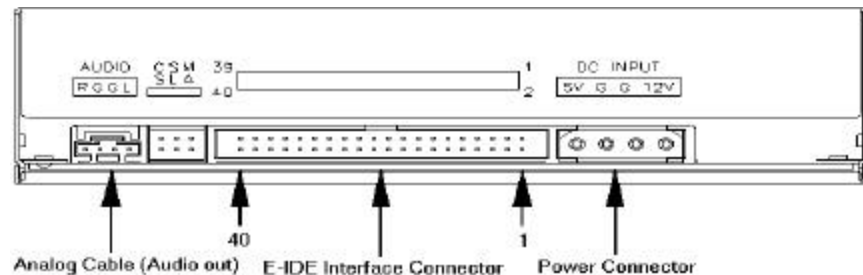
Host Interface Connections

It is recommended that you use separate IDE ports for your hard drive and your HI-VAL drive. The drive should be connected to a Secondary IDE controller port as "Master". This will ensure your hard drive's performance and speed are not affected by having the HI-VAL drive on the same cable. Additionally, if you have a CD-ROM drive or a CD-R drive, you should attach it to the Primary IDE controller port as a slave drive.

Connect the internal IDE flat cable to the IDE interface card of your host. Connect the other end to one of the IDE connectors at the rear of the CD-ROM drive.

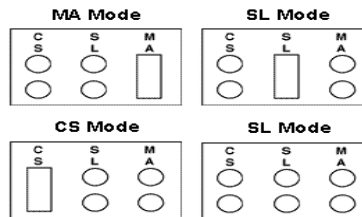
Hardware Installation

The following diagram shows you the rear view of your HI-VAL CD-ROM drive. Familiarize yourself with the drive before installing the unit into your computer. Locate where the drive will be connected first and then make sure you have all the necessary parts for the connection.



Setting-up the “Mode Select” Jumper

On the rear panel of the CD-ROM drive, you will find three pairs of jumpers, CS (CSEL), SL (Slave) and MA (Master). Use the jumper cap to set the device to CS, SL or MA mode corresponding to your PC configuration (See Figure below). The default setting is “Slave” mode. Improper or conflicting setting, will cause the unit to not be detected by your computer.

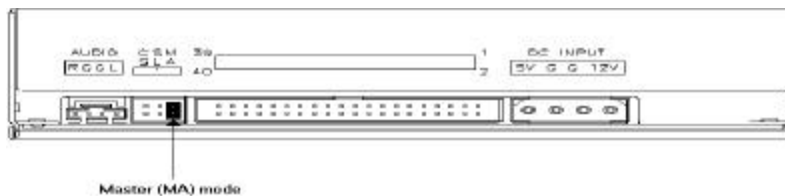


Connecting to a Primary IDE Controller

There should be at least one IDE controller (or card) on the PC motherboard. This IDE controller support two devices, one for the hard disk (Master), and the other for the 2nd hard disk or a CD-ROM drive. The hard disk should be connected to this primary IDE (Master mode) controller as the PC needs to use the hard disk to boot up the system (unless you are using a SCSI hard drive). Make sure the Hi-VAL CD-ROM drive is connected to the Secondary IDE port as the 1st device which is referred to as the “Master”. Make sure the Mode Select Jumper is set to the MA (Master) position in order to be used as the 1st device. (See figure at the end of this page.)

Connecting a Secondary IDE controller

If the PC is equipped with a 2nd IDE controller (or card) on the motherboard, each device connected to this controller should be set to either MA (Master) or SL (Slave) mode. Please set the HI-VAL CD-ROM drive to MA (Master) mode. If there is another device such as a CD-ROM connected to the secondary IDE controller, make sure it is set to the “Slave” mode. You may have to change the jumper settings on this CD-ROM. By setting the CD-ROM drive to the “Master” position, you will get maximum performance.



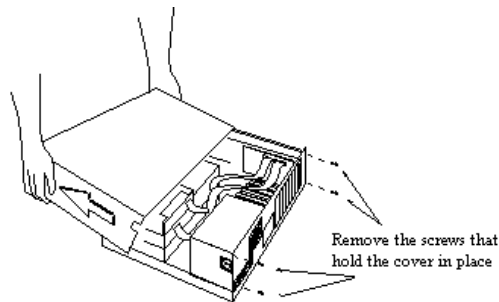
Attaching your HI -VAL CD-ROM Drive to your computer

Note: Please follow these steps carefully when installing the CD-ROM drive.

1 Turn off the PC.

Make sure there is no power going to your computer prior to beginning the Hardware Installation. This is to help prevent harm to yourself as well as the risk of damage to your computer.

2 Remove the computer's cover.

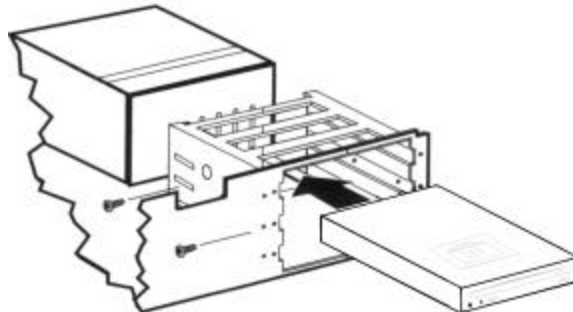


Please refer to your computer's User's Guide on how to remove the computer's cover.

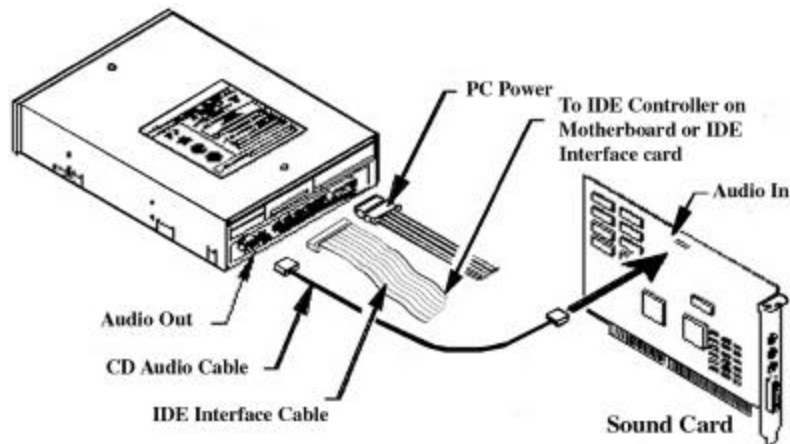
3 Locate an available 5 ¼ drive bay.

Locate an empty 5 ¼ drive bay within your computer. It may be necessary to remove a square iron plate. Please refer to your computer's User's Guide for assistance.

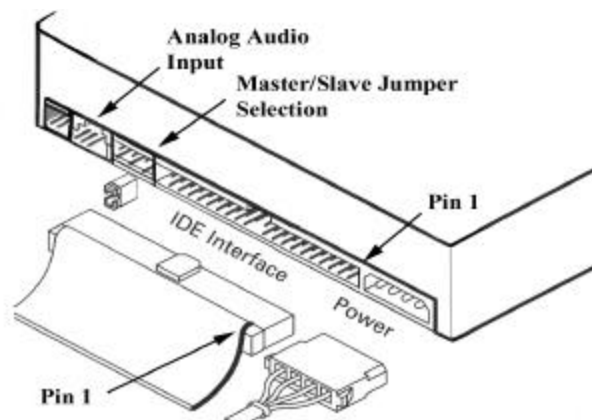
4 Slide the CD-ROM drive into the empty bay.



- 5** Connect the power supply cable into the DC input connector on the back of your CD-ROM.



- 6** Connect the IDE cable into the E-IDE Interface connector on the back of your CD-ROM drive.



Connect the 40-pin IDE cable into the CD-ROM drive's E-IDE connector. Make sure to align the red-lined edge of cable with Pin-1 of the IDE connector.

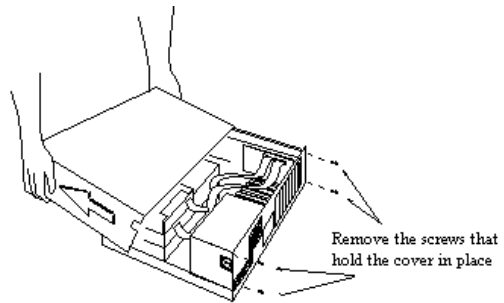
- 7** Connect the Analog cable from your Sound Card to the Audio out connector on your CD-ROM drive (If necessary).

If you have a sound card or an audio interface card, use the audio cable to connect from the sound card audio port to the CD-ROM drive's Analog Audio out connector located on the back panel.

8 Secure the CD-ROM drive against the chassis of your computer.

Secure the drive using four screws included in the accessory pack.

9 Re-attach the computer's cover.



10 Reconnect all power cords to the computer.

Driver Installation

Windows 95/98 Installation

There is no need to install any CD-ROM device driver under Windows 95/98. After completing the hardware installation section of this manual, please follow the steps below:

1 Turn on your PC and start-up Windows 95/98.

Windows 95/98 will automatically detect the new CD-ROM drive and load the appropriate drivers for your CD-ROM. If your CD-ROM is not automatically detected, please refer to the troubleshooting section on this manual.

2 Double click on the *My Computer* icon.

There should be a letter drive for the new CD-ROM drive. Place a CD into the CD-ROM drive and browse it. If you can browse the CD, the CD-ROM drive is working properly.

Note: *It is not necessary to run the DOS install if you are using Windows 95/98.*

Enabling Ultra DMA/33 support under Windows 95/98

Ultra DMA/33 mode is a new standard whereby the CD-ROM can transfer data through the DMA interface at speeds up to 33 MB/sec. This is supported only in new motherboards that are just now appearing in the market. You must determine what type of mother board you have to see if this function is supported. The Intel 430TX, 440LX and newer motherboards support Ultra DMA/33. Please contact your computer manufacturer or motherboard maker to determine if this function is supported.

If your motherboard or computer supports Ultra DMA/33, you must enable it in the BIOS. Consult your system manual for this.

Install the PCI IDE driver (Win95 version) which supports Ultra DMA/33. This is provided by your computer manufacturer. If this driver was not supplied, then you must contact your computer manufacturer for this driver. IOM Holdings cannot supply this to you.

Windows NT 3.5x Installation

- 1 Power on your PC.
- 2 Start the Windows NT Setup Program from the Main Program Group.
- 3 Select OPTIONS and click ADD/REMOVE SCSI ADAPTERS
- 4 Click ADD and select IDE CD-ROM and click install

Windows NT 4.0 Installation

- 1 Power on your PC.
- 2 Start the Windows NT
- 3 Once in the desktop, click on the Start button > Settings > Control Panel > Devices
- 4 Select "ATAPI" from the list and click on the "Startup" button
- 5 When you get the startup screen, check "Boot" then click The "OK" button
- 6 Close the Devices screen and click on the Start button > Shut Down and restart the computer

Note: If the setup program asks for floppies instead of prompting for the current driver, exit setup, and copy the ATAPI.SYS file from your NT setup Disk to directory \WINNT35\SYSTEM32\DRIVERS, then run the above setup procedure again.

DOS or Windows 3.1x Installation

1 Power on your PC and go to the Dos prompt.

If your PC boots into Windows 3.X automatically, you need to exit Windows to the Dos prompt.

2 Insert the driver diskette into a floppy drive.

3 Type A:\install (where A:\ is your floppy drive)

5 Follow the instructions on the screen.

Follow the instructions on the screen to complete the rest of the installation process.

6 Remove the Driver Diskette and Reboot your computer.

Once the installation is complete, remove the driver diskette and reboot your computer. This is necessary for your computer to detect your new CD-ROM.

Note: DOS installation requires MSCDEX be present on your system. MSCDEX is included with DOS versions 6.0 and above. If you do not have MSCDEX, contact your computer reseller for assistance.

MSCDEX.EXE

MSCDEX.EXE is Microsoft's CD Extension and is used to interface your PC to the CD-ROM drive. For the CD-ROM drive, MSCDEX.EXE version 2.21 or above is required.

During installation, a line is added to your AUTOEXEC.BAT that loads the MSCDEX.EXE driver. The entry in your AUTOEXEC.BAT will be something similar to:

```
C:\DOS\MSCDEX.EXE /D:MSCDD001 /V
```

The entry follows the format of:

```
[drive:][path\]mscdex.exe /d:device_name [/l:letter] [/m:<number>]
```

Note: This line is not necessary if you are using your CD-ROM under Windows 95/98.

TROUBLESHOOTING

The following section describes common problems you may encounter, along with some suggestions for resolving them.

My HI-VAL CD-ROM Drive is not found by Windows 95/98

If you are connecting the CD-ROM drive to the motherboard, read this:

Make sure that there are no conflicts, both Primary and Secondary IDE controllers are present and without yellow exclamation marks. To check the status of your IDE controllers, click on the Start button > Settings > Control Panel > System > Device Manager (under the Hard Disk Controllers category). Yellow exclamation marks on the IDE controllers mean that the device is not working properly, not install properly or have a resource conflict with another device. Some retail version of Windows 95/98 may not recognize some of the IDE controllers. This can result in IDE devices (such as CD-ROM drives) not being detected or disappearing from the PC.

There are several ways to correct the problems.

If the Primary or Secondary IDE controllers are not present, read this:

Your controllers are not setup properly and you need to get a patch from your motherboard manufacture or check your BIOS setup and make sure that both onboard IDE controllers are enable. Visit our web site (www.hival.com) for additional help.

If the Primary and Secondary IDE controllers are present but they have yellow exclamation marks, read this:

The protected-mode driver for the hard disk controller was not properly initialized when you started Windows previously. When this occurs, a NOIDE entry is placed in the registry, preventing Windows from making future attempts to initialize the protected-mode driver. You might try to resolve the problem by editing your Registry.

WARNING: Using Registry Editor incorrectly can cause serious problems that may require you to reinstall Windows. IOM Holdings cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved.

“Use Registry Editor at your own risk.”

NOTE: You should make a backup copy of the registry files (System.dat and User.dat) before you edit the registry.

Go to the Start button then Run and type **REGEDIT** Then go to the following directories to remove the NOIDE entry if it is listed. Once removed reboot system.

HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\SERVICES\VXD\IOS

After you update the registry, restart Windows. Windows will then attempt to initialize the protected-mode driver for the controller. If no problems are encountered, the file system and virtual memory will operate in 32-bit mode, and Device Manager will not display an exclamation point in a yellow circle for the IDE channels. If the protected-mode driver is not initialized properly, an error message will be displayed and the NOIDE registry entry will be re-created. Windows will use the MS-DOS compatibility mode file system the next time you start the computer.

The CD-ROM Drive cannot play music CDs (CD-DA) in Windows.

The audio from a CD is transmitted from the CD-ROM to the sound card through the "Analog cable" (3-4 Small wire cable). Make sure this cable is connected to the sound card in the right place. In some sound cards the cable can go on both ways, so if it does not work one way, rotate it around and it should work. Make sure you refer to your owner's manual for more information on diagrams and pin designations. Note: If the analog cable does not fit your sound card, you should get an analog cable that fits your sound card and the CD-ROM drive.

What is "Multi-Read", and does my CD-ROM drive support this function?

The "Multi-Read" function means the CD-ROM Drive can read not only the existing CD title & CD-R but also recorded CDR-W media. However, the reflection rate of the CDR-W disc media is only around 25~35% of the normal CD-ROM disc. So sometimes it is difficult for the CD-ROM drive to read this kind of media.

Your CD-ROM drive supports CDR and CDR-W formats. If your CD-ROM drive cannot read CDR or CDR-W disks, the problem most likely is the way you recorded the CDR or CDR-W disk. Try reading regular CDs to ensure that your CD-ROM drive is working properly.

Is the LED indicator light supposed to stay on when I have a CD in my CD-ROM?

The LED indicator light should stay on if you have a CD in the drive. When you access the drive it should blink. This is a convenient feature of the CD-ROM drive that alerts you when you have a CD in the drive without opening it.

I am not getting any sound when I play a music CD with the CD-ROM drive.

Make sure the audio cable is connected to the back of the CD-ROM drive. The audio cable should also be connected to the appropriate port on your sound card or motherboard. If you still do not get sound, try reversing the audio cable.

Do I need to use the driver installation diskette to install the CD-ROM drive?

If you have Windows 95 or higher, you do not need to use the driver diskette. Windows will automatically install the appropriate drivers. Only use the installation diskette if you are running DOS or Windows 3.1.

Does my CD-ROM drive support digital audio extraction?

Yes, your HI-VAL CD-ROM drive will support digital audio extraction, enabling you to extract audio data from a music CD.

Does my HI-VAL CD-ROM drive work in Windows 2000?

Yes, Windows 2000 will automatically detect and install the CD-ROM drive just like Windows 95/98. The HI-VAL CD-ROM drive is Plug & Play with Windows 2000 and you do not need to install any drivers.

CONTACTING IOM HOLDINGS

If you experience problems with this IOM Holdings product and you cannot find an answer in the previous Troubleshooting sections, you can also contact IOM Holdings Technical Support Staff.

Please have the following information ready when you call:

- ☐ The product you are having problems with.
- ☐ The operating system and type of computer you are using.
- ☐ A list of other hardware installed on your machine.
- ☐ If you are using DOS and Windows 3.x, a list of the contents of your AUTOEXEC.BAT, CONFIG.SYS, and SYSTEM.INI.
- ☐ A detailed description of the problem.

You can contact IOM Holdings Technical Support staff at the following numbers:

Phone:	(714) 953 - 0589 (M-F 8:00AM - -5:00 PM PST)
Fax:	(714) 543 - 0802 (24 Hrs)
Internet:	http://www.hival.com
Email:	Go to http://www.hival.com/support/contact.htm and fill out the form.
Mail:	IOM Holdings Incorporated 1300 E. Wakeham Ave. Santa Ana, CA 92705

REGISTER YOUR HI-VAL PRODUCT

Please take the time to send in your registration card. The serial number of your CD-ROM drive is located on the top of the drive itself. The series of numbers under the bar code is the serial number.

Alternatively, you can register your product on-line at our Web site. This is actually the fastest way to receive the latest HI-VAL product information and updates. The Web URL address to the registration page is:

http://www.hival.com/registration_page.htm

Again, we would like to thank you for buying HI-VAL products.

